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On the visual screening of schoolchildren enrolled in the official elementary-school system

Sobre a triagem visual de escolares matriculados na rede oficial do ensino público fundamental

Milton Ruiz Alves

"The first task of education is to teach how to see..."
Rubem Alves

It is important to diagnose visual problems as early as possible as a decisive way to correct and minimize serious future problems. At school age, approximately 20%-25% of children have some type of eye problem, particularly uncorrected refractive errors, amblyopia, and strabismus.[1,2] Every child should undergo a complete eye examination before starting school, even at preschool age, in order to correct or minimize visual disorders that may closely interfere with learning.[1,2] From a public-health standpoint, routine eye examination in children is expensive and even infeasible. Thus, the application of a visual acuity test (VAT) in schoolchildren, as well as the observation of signs and symptoms of ocular disorders by the teacher in class, are the most advisable ways to detect eye problems at school in Brazil.[1,2]

In the State of São Paulo, the School Sanitary Ophthalmology Plan was implemented in schools of the state's official education network in the period from 1973 to 1976. The plan proposed to detect visual disorders in schoolchildren, to provide due assistance, supported by educational activities, and to collect data on existing ophthalmological problems.[3] Temporini et al[4] pointed out the need for teacher training and difficulties in relation to the students, such as the interpretation of the VAT, shyness, lack of attention, and feigning, as aspects one needs to carefully avoid in order to get the real information. The most important component of the screening of schoolchildren in the 1974-1976 period was the repeated application of VATs, which contributed to 92.29%, 87.46%, and 88.76% of all referrals to ophthalmic medical consultation in the respective years. Complementing the VAT, students were also selected by the teachers' observation of signs and symptoms of visual problems: 7.71%, 12.54%, and 11.24%, respectively for each of those years. Therefore,

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the referral of cases to ophthalmological examination was based on these two sources of information. In the evaluation of visual acuity by the teacher, compared with that made by the ophthalmologist, an agreement of results was found in 80.86% of the cases.[4] However, we found that the percentage of correct VAT evaluations by teachers from the state official education network, testing schoolchildren in the municipality of São Paulo included in the "Visão do Futuro" (Vision of the Future) program in the years 2011-2020, dropped to approximately 50%. These data indicate that teachers require training to successfully apply VATs. We emphasize that teachers are fundamental in the process of detecting visual changes and in implementing and consolidating eye health programs for schoolchildren.[1-4] Daily contact with students allows the teacher to detect changes in behavior or in school performance that may be linked to visual disorders.[3-6]

A study carried out with first-year students from the state's official education network in the city of São Paulo showed that 57.7% of the students screened at school and sent for a complete eye examination needed a prescription for corrective lenses.[5] This again reinforces the importance of visual screening examinations and shows the tests' great relevance from a public-health standpoint as they identify risk groups that, when evaluated, allow the detection of significant refractive errors and other diseases and begin treatment.[4-7] When visual impairment is not detected and treated early, it can have consequences in several aspects, such as psychoneuromotor development, social interaction skills, and productivity at work.[7,8]

Brazil's Unified Health System has not yet been structured for the ophthalmological care of preschoolers and schoolchildren; there is a lack of human resources that can act in actions to promote eye health, as well as a lack of physical infrastructure and equipment for refractive examinations.[9] The Brazilian Council of Ophthalmology points the need for new actions to control the growing flow of demand and expand children's access to ophthalmology services.[7] One of the ways to expand ophthalmological care to schoolchildren and preschoolers is the incorporation of new technologies into this process. The use of photoscreener equipment facilitates performing refractive screening of preverbal or illiterate children, or those with delayed psychoneuromotor development.[10] In preschoolers aged 4-6 years, refractive screening with a photoscreener for the identification of risk factors for amblyopia was found to be better than visual screening with an optotype table.[11] For the visual screening of schoolchildren from the public elementary-school system, particular attention should be giving to training the teachers because this is the only way for visual screening at school to reduce the chance of not identifying positive cases and not referring to a complete ophthalmological evaluation of a large number of schoolchildren who do not need it.

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